

Application Serial No. 10/601,745

Claims 1-11 (Cancelled).

12. (Currently Amended) A method for increasing upstream communication in an optical network comprising the steps of:

receiving an optical signal that is formatted according to a network protocol and predetermined timing scheme and having a predetermined encoding scheme that provides transitions per code group of data to facilitate clock recovery;

increasing a speed in which a detecting circuit can receive and convert optical signals to electrical signals by adjusting a time constant of the detecting circuit according to a predetermined frequency of the data that is dependent upon the network protocol and encoding scheme;

increasing a speed in which an automatic gain control circuit coupled to the detecting circuit can adjust gain between different optical signals received by the detecting circuit by adjusting a time constant according to the predetermined frequency, the automatic gain control circuit comprising a first amplifier for comparing voltages;

receiving electrical signals from the detecting circuit with a limiting circuit; and

increasing a speed in which ~~[[a]]~~ the limiting circuit can convert the electrical optical signals to electrical digital data signals by adjusting a time constant according to the predetermined frequency, the limiting circuit comprising a second amplifier; and

~~converting the optical signals to electrical signals according to the predetermined frequency.~~

13. (Original) The method of Claim 12, wherein the step of receiving optical signals comprises receiving optical signals formatted according to a Gigabit Ethernet standard.

14. (Original) The method of Claim 12, wherein the step of receiving optical signals comprises receiving optical signals encoded according to 8B/10B encoding.

Application Serial No. 10/601,745

15. (Original) The method of Claim 12, wherein the step of receiving optical signals comprises receiving optical signals formatted according to a time division multiple access protocol.

16. (Original) The method of Claim 12, wherein the step of increasing a speed in which a detecting circuit can receive optical signals comprises decreasing a time constant by decreasing capacitance of a photodetector circuit to correspond with a predetermined frequency of the data.

17. (Original) The method of Claim 12, wherein the step of increasing a speed in which the detecting circuit can adjust between different optical signals comprises decreasing a time constant by decreasing capacitance of a gain control circuit to correspond with a predetermined frequency of the data.

18. (Original) The method of Claim 12, increasing a speed in which a limiting circuit can convert optical signals to electrical signals comprises decreasing a time constant by decreasing capacitance of the limiting circuit to correspond with a predetermined frequency of the data.

Claims 19-30 (Cancelled.)

[The remainder of this page has been intentionally left blank.]